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resormation carrier, method for producing same

lished U.S. application no. 08/300 865, enclosed as appendix A to the disclosure)

## Technical field

The present invention is generally directed to an information carrier, comprising at least two solid material interfaces, at which information is applied or may be applied by local modulation of at least one solid material characteristic, from which reflection of electromagnetic radiation depends on at said interfaces, and which further comprises at least one intermediate layer between the two solid material interfaces, which layer transmits the said radiation at least to a considerable amount.

As solid material interface we understand the transition area where one material surface is intimately contacted by a second material surface.

The present invention is further generally directed to a method for producing a layer, which at least predominantly consists of  $\mathrm{Si}_x\mathrm{C}_y$  or of  $\mathrm{Si}_x\mathrm{C}_y\mathrm{H}_z$  or of  $\mathrm{Si}_v\mathrm{N}_w$  or of  $\mathrm{Si}_v\mathrm{N}_w\mathrm{H}_u$  by means of a reactive vacuum coating process, and further is directed to a vacuum coating apparatus which is specifically suited for performing the said method of producing the said layer. The method for producing the said layer is particularly suited for producing at least one layer at the said intermediate layer of the information carrier.

## Prior art

In Compact News 1995, "Optical Disc Manufacturing Equipment", so-called high density CDs of different basic principles are

shown in general view.

Therefrom, so-called MMCD or "single sided dual layer highdensity CD" or "hdCD" are known as optical information carrier in the shape of CDs, at which the information density is considerably improved. This is achieved by providing two solid material interfaces, whereat information is stored on a carrier substrate. The solid material interfaces are separated by means of an intermediate layer. The information at the solid material interfaces is applied by local modulation of a surface pattern of intrusions at one of the material surfaces forming the interface. Reading information is realized by means of a beam of electromagnetic radiation in the form of laser light of 635nm or 650nm wavelength or especially of 450nm. The intermediate layer between the information carrying solid material interfaces is practically transmittant to 100% at those wavelengths, so that a part of the impinging beam energy is reflected at the one information carrying solid material interface and a second part at the second.

Further, from the article mentioned above, so-called hybrid MMCD are known, whereat the information provided at respective ones of two information carrying solid material interfaces is selectively read by means of radiation at different wavelengths, namely, on the one hand, by means of a laser beam with a wavelength of light of 635nm and, on the other hand, with a laser beam with a wavelength of light at 785nm.

As was mentioned above, the present invention is most generically dealing with such information carriers, method for producing same and apparatus therefor, whereby it must be pointed out that, under this generic aspect, information at the said solid material interfaces may be applied by local

## Title 37, Code of Federal Regulations, Section 1.56 Duty to Disclose Information Material to Patentability.

- (a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclosure information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclosure all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:
  - (1) Prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.
- (b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made or record in the application, and
- 10(1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
- (2) It refutes, or is inconsistent with, a position the applicant takes in:
- (i) Opposing an argument of unpatentability relied on by the Office, or
- (ii) Asserting an argument of patentability.
- A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in attempt to establish a contrary conclusion of patentability.
- (c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:
  - (1) Each inventor named in the application;
  - (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.
- (d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

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